

Listing of the Claims

1. (Currently Amended) A rotary absorption heat pump comprising:

a rotary unit comprising a housing having an interior surface and an exterior surface and an internal cavity substantially defined by the interior surface of the housing ~~having an interior~~, the ~~interior~~ internal cavity containing a vapour generator, a condenser, an evaporator, and an absorber that are interconnected to constitute fluid flow paths for a volatile fluid component and a liquid absorbing it, the vapour generator comprising a heat exchanger having internal and external heat exchange surfaces ~~that~~, the internal and external heat exchanger surfaces located completely within the ~~interior~~ internal cavity of the rotary unit with no portion of the external heat exchanger surface making contact with the interior surface of the housing, the heat exchanger comprising a thermally conductive fluid conduit adapted to receive a heating medium from a heat source external to the ~~interior~~ exterior surface of the housing of the rotary unit.

2. (Previously Presented) The heat pump according to claim 1, further comprising a heating medium static inlet and a heating medium static outlet for receiving and expelling the heating medium from the rotary unit, respectively, and a rotary inlet conduit disposed along a rotary axle of the rotary unit and in fluid communication with the static inlet for delivering the heating medium to the heat exchanger and a rotary outlet conduit disposed coaxially to the rotary inlet conduit for receiving the heating medium from the heat exchanger and delivering the heating medium to the static outlet.

3. (Previously Presented) The heat pump according to claim 2, wherein the rotary inlet conduit is disposed within the rotary axle, the heat pump further comprising a rotary seal at an end of the rotary axle where the static inlet and the rotary inlet conduit meet.

4. (Previously Presented) The heat pump according to claim 3, wherein the rotary seal comprises a bushing made of a low-friction material.

5. (Previously Presented) The heat pump according to claim 3, wherein the rotary inlet conduit is in the interior of the rotary outlet conduit, the end of said rotary inlet conduit being located at the end of the rotary axle and connected to the static inlet, the rotary outlet conduit connected by a hole disposed on the surface of the rotary axle to the static outlet, the rotary seal separating the heating medium that enters the rotary inlet conduit from the heating medium that exits the rotary outlet conduit.

6. (Previously Presented) The heat pump according to claim 5, wherein the rotary axle is rotationally connected to bearings located on or within a support structure, the heat pump further comprising a casing attached to said support, said casing comprising the static inlet and the static outlet, the rotary seal being fixed to an interior of said casing.

7. (Previously Presented) The heat pump according to claim 6, wherein said heat pump further comprises a mechanical fastening that prevents the heating medium from reaching the bearings.

8. (Previously Presented) The heat pump according to claim 1, wherein the heat exchanger comprises a spiral pipe, said spiral pipe being corrugated internally and externally.

9. (Previously Presented) The heat pump according to claim 8, wherein the heat exchanger is made of nickel-plated copper.

10. (Previously Presented) The heat pump according to claim 1, wherein at least a portion of the condenser is in direct contact with the environment exterior to the rotary unit so that there is direct cooling of the condenser via the exterior environment.

11. (New) A rotary absorption heat pump comprising:

a rotary unit having an interior, the interior containing a vapour generator, a condenser, an evaporator, and an absorber that are interconnected to constitute fluid flow paths for a volatile fluid component and a liquid absorbing it, the vapour generator comprising a heat exchanger that is located within the interior of the rotary unit, the heat exchanger comprising a thermally conductive fluid conduit adapted to receive a heating medium from a heat source

external to the interior of the rotary unit, the heat pump comprising a heating medium static inlet and a heating medium static outlet for receiving and expelling the heating medium from the rotary unit, respectively, and a rotary inlet conduit disposed along a rotary axle of the rotary unit and in fluid communication with the static inlet for delivering the heating medium to the heat exchanger and a rotary outlet conduit disposed coaxially to the rotary inlet conduit for receiving the heating medium from the heat exchanger and delivering the heating medium to the static outlet.

12. (New) The heat pump according to claim 11, wherein the rotary inlet conduit is disposed within the rotary axle, the heat pump further comprising a rotary seal at an end of the rotary axle where the static inlet and the rotary inlet conduit meet.

13. (New) The heat pump according to claim 2, wherein the rotary seal comprises a bushing made of a low-friction material.

14. (New) The heat pump according to claim 2, wherein the rotary inlet conduit is in the interior of the rotary outlet conduit, the end of said rotary inlet conduit being located at the end of the rotary axle and connected to the static inlet, the rotary outlet conduit connected by a hole disposed on the surface of the rotary axle to the static outlet, the rotary seal separating the heating medium that enters the rotary inlet conduit from the heating medium that exits the rotary outlet conduit.

15. (New) The heat pump according to claim 14, wherein the rotary axle is rotationally connected to bearings located on or within a support structure, the heat pump further comprising a casing attached to said support, said casing comprising the static inlet and the static outlet, the rotary seal being fixed to an interior of said casing.

16. (New) The heat pump according to claim 15, wherein said heat pump further comprises a mechanical fastening that prevents the heating medium from reaching the bearings.

17. (New) The heat pump according to claim 11, wherein the heat exchanger comprises a spiral pipe, said spiral pipe being corrugated internally and externally.

18. (New) The heat pump according to claim 17, wherein the heat exchanger is made of nickel-plated copper.

19. (New) The heat pump according to claim 11, wherein at least a portion of the condenser is in direct contact with the environment exterior to the rotary unit so that there is direct cooling of the condenser via the exterior environment.